

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A sensing device comprising:

a cantilever disposed with a medium which is movable relative to the cantilever; and

a device associated with one of the cantilever and the medium which is responsive to changes in electrical field between the medium and the cantilever caused by a distance between the medium and the cantilever changing.
2. (Original) A sensing device as set forth in claim 1, wherein the cantilever comprises a probe which extends from the cantilever and contacts a surface of the medium having a topography that causes the distance between the cantilever and the medium to vary.
3. (Original) A sensing device as set forth in claim 1, wherein the device is a FET (Field Effect Transistor).
4. (Original) A sensing device as set forth in claim 1, wherein the device is an induced channel FET (Field Effect Transistor).
5. (Original) A sensing device as set forth in claim 3, wherein the medium is electrically non-conductive and is supported on a substrate which is electrically conductive, and wherein the substrate is circuited with the FET so that variations in the electrical field which result from a change in distance between the medium and the cantilever, induces a change in electrical current passing through the FET and produces a read signal.
6. (Original) A read mechanism used in a contact atomic resolution storage system, comprising: a cantilever disposed with an electrically non-conductive medium which is movable relative to the cantilever, the cantilever having a probe which follows a topography of the medium; and a device formed in the cantilever which responds to a change

in electric field induced by a change in distance between the cantilever and a substrate on which the medium is supported.

7. (Original) A read mechanism as set forth in claim 6, wherein the device is a FET (Field Effect Transistor).

8. (Original) A read mechanism as set forth in claim 6, wherein the device is an induced channel FET (Field Effect Transistor).

9. (Currently Amended) A read mechanism used in a contact atomic resolution storage system, comprising:

a cantilever disposed with a medium which is movable relative to the cantilever, the cantilever having a probe extending from the cantilever and in contact with a surface of an electrically conductive medium to follow changes in a data indicative topography of the medium;

a circuit which establishes an electrical connection between the cantilever and substrate on which the media is supported, and generates an electric field in [[a]] an air gap between the cantilever and the medium; and

a device associated with the cantilever which is responsive to changes in the electric field in the air gap.

10. (Original) A read mechanism as set forth in claim 9, wherein the device is a FET (Field Effect Transistor).

11. (Original) A read mechanism as set forth in claim 9, wherein the device is an induced channel FET (Field Effect Transistor).

12. (Original) A method of using a sensing device comprising:

moving a probe supported on a cantilever relative to a medium that has a data indicative topography followed by the probe, the medium being associated with a substrate producing an electric field; and

sensing the change in distance between the cantilever and the medium using a change in current flowing through a FET (Field Effect Transistor) formed in the cantilever, wherein the change in current is induced by a change in electric field between the substrate and the FET.

13. (Original) A method as set forth in 12, further comprising using the change in electric field to sense the presence of a bit of data which is written into the medium.

14. (Original) A method as set forth in 13, further comprising using the data bit sensing in a mass storage device.

15. (Original) A method of using a sensing device comprising:

forming a FET in a first structure;

generating an electric field in a second structure which is movable with respect to the first structure; and

gating the FET using the electric field produced by the second structure and produce a signal indicative of the amount of separation between the first and second structures.

16. (Original) A method as set forth in claim 15, further comprising:

controlling the relative position between the first structure and the second structure;
and

sensing data stored on the second structure using the signal indicative of the amount of separation between the first and second structures.

17. – 20. (Cancelled)

21. (Original) A method of making a sensing device comprising:

forming a cantilever;

forming a FET (Field Effect Transistor) in the cantilever;

forming an electrically non-conductive probe on the cantilever; and

adapting the probe to follow a topography of a medium which is movable relative to the probe and which is associated with a substrate which is adapted to produce an electric field which acts as a gate for the FET.

22. (Currently Amended) A method as set forth in claim 21, further comprising:

forming the medium of a thermoplastic electrically non-conductive material;

forming the medium on the substrate; and

forming the substrate of an electrically conductive material.

23. (Original) A method as set forth in claim 21, comprising forming the FET with a channel.

24. (Original) A method as set forth in claim 21, comprising forming the FET as a induced channel FET.

25. (Original) A method as set forth in claim 21, further comprising connecting the medium to a drive which moves the medium with respect to the probe.

26. (Original) A sensor device comprising:

a cantilever;

a medium which is movable with respect to the cantilever;

electric field generation means disposed with a first of the cantilever and the medium for producing an electric field between the medium and the cantilever; and

FET sensing means disposed with a second of the cantilever and the medium for responding to changes in an electric field induced by a change in clearance between the medium and the cantilever.

27. (Original) A sensor device as set forth in claim 26, further comprising probe means for detecting a data indicative topography of the medium and controlling the change in clearance between the cantilever and the medium.